

CLAIMS

What is claimed is:

- 1 1. A method of documenting a failure in a telecommunications network,
2 comprising the steps of:
3 defining a component structure for elements in the network;
4 determining if any of the component structures are in failure in the
5 network;
6 associating, based on the determined failure of at least one of the
7 component structures, a customer circuit terminating on a node wherein the component
8 structure is in failure; and
9 generating automatically a trouble ticket based on the associated failed
10 network component with the node.
- 1 2. The method recited in claim 1, wherein the defining step comprises the
2 step of sectionalizing the elements into their basic component structures to quantify
3 failures of the elements at a level of the component structures.
- 1 3. The method recited in claim 2, wherein the sectionalizing step comprises
2 the step of sectionalizing the elements into a plurality of levels corresponding to parts in
3 the network elements.
- 1 4. The method recited in claim 3, wherein the generating step comprises the
2 step of generating an element trouble ticket which documents a failure of an element in
3 the network.
- 1 5. The method recited in claim 4, further comprising the step of generating a
2 service trouble ticket in response to the generation of the element trouble ticket which
3 documents all circuits in the network that are experiencing failure as a result of the failure
4 of the network element.
- 1 6. The method recited in claim 5, wherein the step of generating a service
2 trouble ticket generates a plurality of service trouble tickets, each of the service trouble
3 tickets documenting a failure of a separate circuit in the network which results from the
4 network element failure.

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1 7. The method recited in claim 6, further comprising the step of invoking a
2 maintenance function in response to at least one of the generated service trouble tickets,
3 the maintenance function operable for diagnosing the failure of the network element.

1 8. The method recited in claim 7, further comprising the step of invoking a
2 customer care function for providing to a customer a status of a circuit affected by the
3 network element failure.

1 9. The method recited in claim 8, wherein the invoking of the customer care
2 function step comprises the step of entering comments to service tickets automatically to
3 update customers concerning status of the network failures.

1 10. The method recited in claim 9, further comprising the step of making
2 available the trouble tickets over a medium to a customer.

1 11. The method recited in claim 10, wherein the medium comprises the
2 Internet.

1 12. A method of generating trouble tickets for network elements that are in
2 failure and affecting network performance, comprising the steps of:

3 defining component structures of each of the network elements in the
4 network that may be in failure and quantifying whether any of the component structures
5 in any of the elements in the network are in failure;

6 associating the failures of the component structures of the network
7 elements with customer nodes in the network that are affected by the failures and wherein
8 the nodes comprise circuits in the network that are utilized by customers to automatically
9 generate trouble tickets regarding the failures which may be communicated to network
10 maintenance personnel; and

11 making available the trouble tickets to the customers to give customers
12 automatic access over a medium to information regarding status of the failures.

1 13. The method recited in claim 12, wherein the medium comprises a local
2 area network.

1 14. The method recited in claim 12, wherein the medium comprises a wide
2 area network.

- 1 15. The method recited in claim 12, wherein the network comprises a
2 broadband network.
- 1 16. The method recited in claim 12, wherein the network comprises an
2 Intranet.
- 1 17. The method recited in claim 12, wherein the network comprises the
2 Internet.
- 1 18. The method recited in claim 17, wherein the defining step further
2 comprises the step of sectionalizing the elements into their basic component structures to
3 quantify the failures at a level of the component structures.

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